Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Per.: \_\_\_\_\_\_\_\_

TEST ON FRIDAY, 9/16

**1.6 Reviewing Constructions**

Constructions you have completed using a compass and a straightedge:

1. equilateral triangle
2. angle bisector
3. perpendicular bisector

**Each group will be assigned one question. Discuss it and complete it in order to be displayed and reviewed by your classmates.**

1. True or false: When performing the constructions above, you can draw complete circles or arcs. **Explain your choice** **using examples**, including making the construction(s).
2. In Euclid’s Proposition 1 (printed on the back), we read about Def 1.15. Here it is:

A *circle* is a plane figure contained by one line such that all the straight lines falling upon it from one point among those lying within the figure equal one another.

Explain this definition in your own words. Then, explain how it fits into Proposition 1, which gives us instructions for how to construct an equilateral triangle AND gives us the **proof** that it is an equilateral triangle. Use the construction of an equilateral triangle to illustrate your explanation.

1. Give an example of when the setting of the compass width (the radius!) matters. Give an example of when the setting of the compass width does not matter. **For both examples, explain why it does or does not matter.** Complete constructions that illustrate your examples.
2. Explain the terms perpendicular bisector and angle bisector to someone who is not in our class. Start by explaining the word bisector. Use the constructions to illustrate your examples.
3. Complete a large version of the equilateral triangle construction and highlight the equilateral triangle. Then, add in any additional segments that are the same length. Explain why they are the same length.

